

LEBANON MEI

382 pipeline. Initial yearly capacity will be 300,000 tons, to be raised to 450,000 by 1956; by that date, total investment in the refinery will be \$8 million. Most of the output will be fuel for bunkering, but the lighter products will be available for domestic consumption, meeting all the country's needs for major oil products. 1/

• **377** Output of electricity has also expanded, from 57 million kilowatt-hours in 1945 to 104 million in 1949, 147 million in 1952 and 164 million in 1953; of the last figure, 63 million kilowatt-hours were produced by thermal generators and 101 million by hydroelectric generators.

331 Construction has been maintained at a high level. Authorized construction in Beirut increased from 107,000 square metres of floor space in 1945 to 258,000 in 1948, 325,000 in 1952, 318,000 in 1953 and 167,000 during the first half of 1954. It is estimated that gross expenditure on construction was LL \$1 million in 1948, LL 73 million in 1949 and LL 99 million in 1950. 2/ These figures represent some 7 to 10 per cent of the gross national product. Construction represents a large fraction, probably over half, of gross investment in Lebanon and absorbs a large proportion of small savings.

339 The building materials industries have expanded to meet construction needs. Owing to expansion of capacity in 1947, output of cement rose from 148,000 tons in 1945 to 209,000 in 1948, 280,000 in 1952, 314,000 in 1953 and 141,000 in the first half of 1954. In recent years, exports have ranged between 20,000 and 60,000 tons. A new plant is under construction. Other industries, such as tile making and glass, have also expanded; output of glassware in 1952 reached 1,300 tons. Various cement products industries have been developed.

258 Food processing represents the most important group of industries, as regards capital employment and value of output (see table 45). Among the principal branches are sugar refining, where output rose from a negligible amount to 6,000 tons in 1952 and 14,000 in 1953 and where capacity is being expanded; vegetable oils, where output has risen from 900 in 1945 to 5,600 in 1952; biscuits, where output rose from 300 tons in 1945 to 1,200 in 1952; dough products, which increased from 300 tons to 2,400; chocolate, jam and various sweet-meats, with a combined output of 4,700 tons in 1953; beer, whose output declined from its war-time peak to 2 million litres in 1953; wine, araq and other alcoholic drinks, whose output has risen slightly in the post-war years, to 2.2 million litres in 1953; and soft drinks, whose output has increased more than twentyfold, to 9.5 million litres in 1953. 3/ All these industries, except sugar, provide a small export surplus and all are operating well below capacity.

288 The textile industries have been facing difficulties. Silk reeling has declined into a minor occupation, but silk weaving has developed, output rising from 26 tons in 1945 to 320 in 1952; this amount represents only one sixth of Lebanon's consumption. Output of woollen cloth has failed to exceed 150 tons,

1/ Oil and Gas Journal, 7 March 1955.

2/ Albert Y. Badre and Agopig G. Altounian, "National Income of Lebanon", Monograph No. 2: "Income Arising in the Construction Sector" (Beirut, November 1951).

3/ Figures from Le Commerce du Levant, 3 July 1954, special issue on industry.

[Text continues on p. 161]

312 The Akkar irrigation scheme in northern Lebanon, which at present
 311 irrigates 2,800 hectares, is scheduled to cover a total of 10,000 hectares,
 652 of which 7,500 are to receive perennial irrigation and 2,500 spring irrigation.
 Total costs, including the completed portion, were estimated at LL 6 million;
 it is expected that work on the project will be finished by 1958.

Lake Yammouneh, in north central Lebanon, at present provides 2,500 hectares with spring irrigation and 800 hectares with summer irrigation; these figures are to be raised to 10,000 and 1,000 hectares, respectively. The cost involved is LL 3 million, in addition to LL 1.5 million already spent. No date has been set for completion. Irrigation from the Orontes River, in northern Lebanon, which is at present received by 1,000 hectares, could be extended to an additional 4,000; no detailed plans have as yet been worked out.

652 Both Lake Yammouneh and the Orontes River form part of a seventy-five-year
 377 concession granted to a private company for the generation of electricity. Turbines with a capacity of 6,000 kilowatts will be erected on Lake Yammouneh and a further 3,000 kilowatts may be added later; generators with a capacity of 9,000 kilowatts, providing an estimated 65 million kilowatt-hours per annum, will be set up on the Orontes. The total cost, including transmission lines, is estimated at LL 12 million; a further unspecified sum may be spent on lining the bed of Lake Yammouneh, to prevent seepage. The capital of the concessionary company is LL 20 Million; of this 60 per cent has been subscribed by Lebanese residents and emigrants and it is hoped to raise the balance from Kuwait and other foreign countries.

The Nahr Ibrahim hydroelectric works have a firm capacity of 1,500 kilowatts and a maximum capacity of 4,200; built by a concessionary company, they began operating in 1950, and in 1953 supplied 20 million kilowatt-hours of electricity. In 1954, the company was authorized to increase its capital from LL 1 million to LL 11.75 million. The Government has also proposed to guarantee a LL 4 million loan to be advanced to the company by the Banque de Syrie et du Liban. A second power plant, with a maximum capacity of 12,000 kilowatts and an estimated annual output of 65 million kilowatt-hours, is to be built, at a cost of LL 10 million, including a dam and other installations; it is hoped to complete the project in 1957, after which a third plant, with a capacity of 12,000 kilowatts is contemplated. A thermal station at Zouk, with a capacity of 15,000 kilowatts, is scheduled for completion by the end of 1955; its capacity will be doubled shortly after. 1/

377 The Litani River project, which provides for both irrigation and power,
 312 is the most important scheme under study in Lebanon. It aims at irrigating, at a total cost of LL 32 million, 18,600 hectares 2/ of which 10,400 are in the Bekaa plain and 3,900 in the coastal plain, the rest being along the intermediate stretch of river. At the same time, power will be provided by

1/ Le Commerce du Levant, 10 October 1954.

2/ This figure is exclusive of the 4,500 hectares in the Kaszieh scheme, which will also be irrigated by the Litani River. In addition, the Litani scheme will provide seasonal irrigation for 2,900 hectares.

377
312

six hydroelectric stations, with an aggregate capacity of 171,000 kilowatts. 1/ The scheme calls for construction of three major dams, five others, 210 kilometres of irrigation canals, 41 kilometres of tunnels and 12 kilometres of high tension transmission lines. The cost of the dams is estimated at LL 88 million, that of the power plants at LL 189 million and that of the transmission system at LL 28 million; total costs, including irrigation, are put at LL 342 million. Construction is planned over a period of twenty-five years. Annual operation, maintenance and repayment charges are estimated at about LL 20 million. Benefits are calculated at about LL 12 million increase in the annual gross value of crops and a net average annual return of LL 19 million from the sale of power.

185

Two important measures have been taken to get this project under way. A draft law has been presented to Parliament, providing for formation of a national electricity and water corporation, with a capital of one million shares of LL 100 each. Fifty-five per cent of the capital will be held by the Government, and 20 to 30 per cent will be reserved for Lebanese citizens. No individual may own more than 100 shares. The corporation would plan and execute all future irrigation work and power development in Lebanon, present concessionaires having the option of continuing until the end of their term of concession or of exchanging their concessions for shares in the corporation. The corporation's concession is for ninety-nine years.

647
185

In July 1954, a National Litani Office was created, as an autonomous government agency charged with implementing the Litani project. In September, tenders were invited from engineering firms to act as consulting and supervising agent for the Office. There are indications that the Office is seeking to implement the first phase of the project, which calls for a dam and reservoir at Karaoun, a diversion tunnel to the Bieri River, and a dam on the Bieri; two hydroelectric stations, with an aggregate capacity of 38,000 kilowatts; and the irrigation of 5,700 hectares above Karaoun. The cost of this phase is estimated at LL 177 million. 2/ The International Bank for Reconstruction and Development has sent a team of experts to evaluate the project, and it is hoped that a loan will be forthcoming.

Other projects

653

Transport projects have absorbed the greater part of government expenditure on development in the post-war period. Between 1945 and 1954, inclusive, expenditure through the ordinary budget on "roads, ports, buildings and other works" amounted to LL 113 million, out of a total of LL 173 million. In the years 1944 to 1953, inclusive, expenditure from the Development Works

- 1/ The output of these stations is estimated to range from a maximum of about 886 million kilowatt-hours to a minimum of about 284 million; in an average year, output is estimated at 626 million. The hydroelectric plants are to be complemented by thermal stations with a capacity of 122,000 kilowatts; the cost and output of these stations are not included in the figures given above.
- 2/ Le Commerce du Levant, 24 July 1954, 1 September 1954, and 21 October 1954.